# SECRICOM

**Seamless Communication for Crisis Management**

Presentation to
PSC Europe Forum Conference 2009

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SEVENTH FRAMEWORK
PROGRAMME

# Presentation objectives

- Introduce the Project
  - Define SECRICOM
  - Vision
  - Programme & Partners
- Introduce the Approach Taken
- Aspects of User Requirements
- Architectures and Technology
- Finalisation

# Key Project Facts

- Seventh Framework Programme – FP7
- Wireless Communication for Crisis Management
  - Multi-Agency/Multi-National

- 13 Partners
- Start date: 1st September 2008
- End date: 30th April 2012
- 44 months duration
- Total cost ~ €12.5M
- EU contribution ~ €8.6M

# The Consortium

- User Requirements


QinetiQ

- Infrastructure

QinetiQ ARDACO

Nextel S.A.

iTTi e-technologies & business

HITACHI Inspire the Next

IAIK TU Graz

UNIVERSITÉ DU LUXEMBOURG

Infineon technologies

cea leti

- Applications

ARDACO QinetiQ

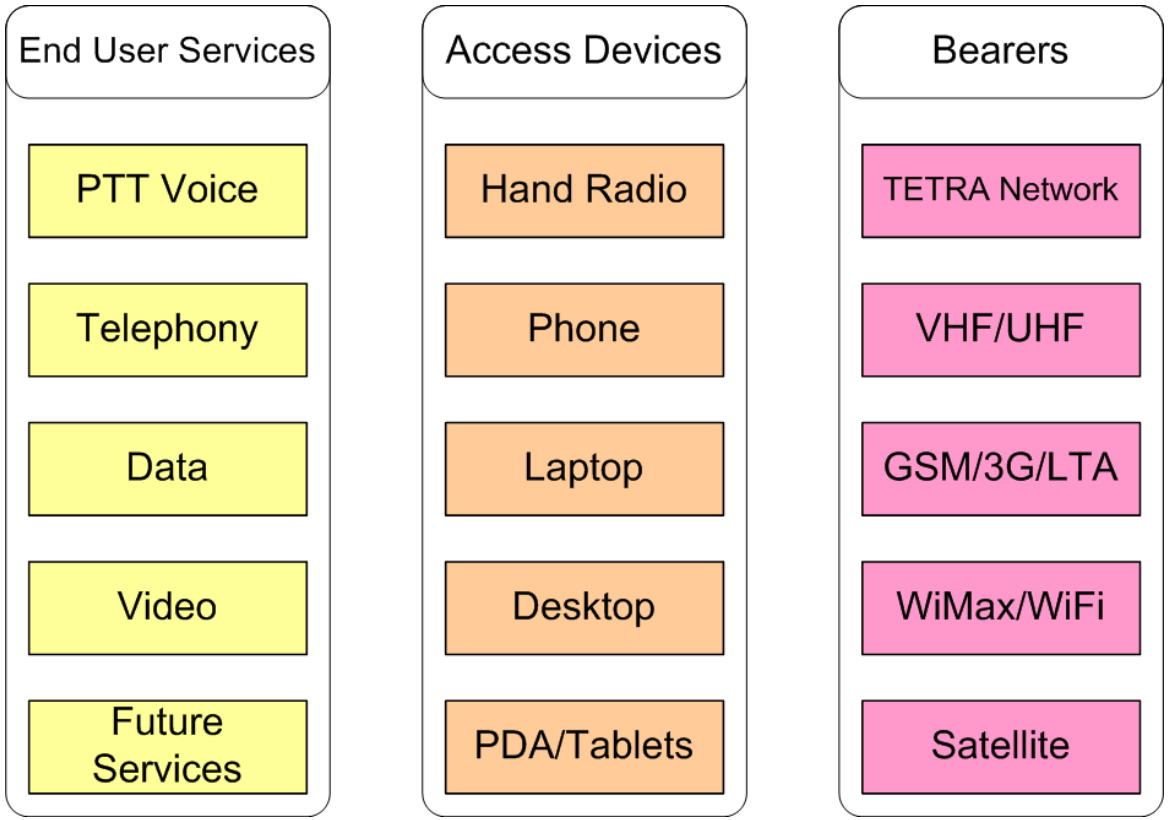
Institute of Informatics Slovak Academy of Sciences

Smartrends

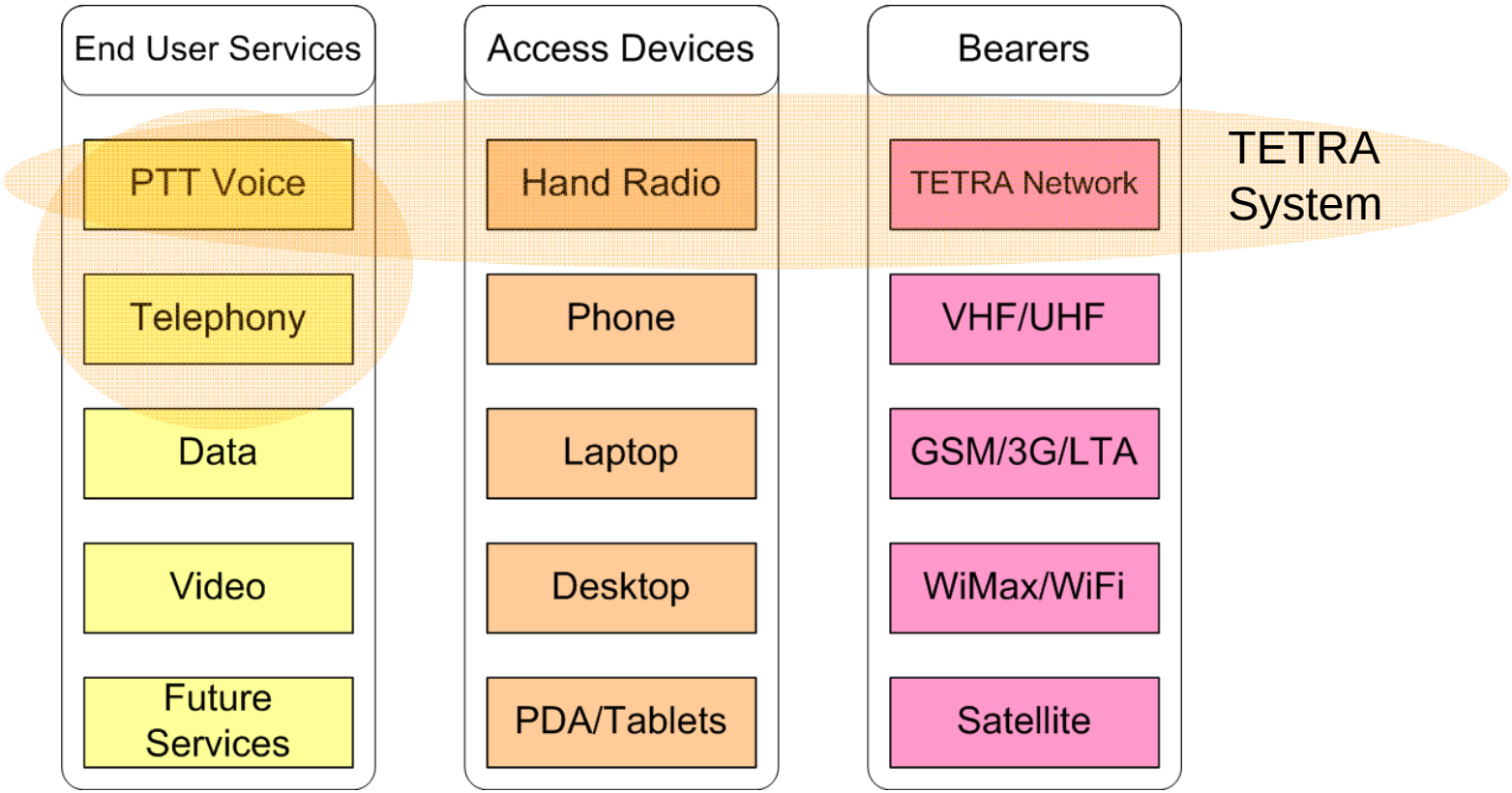


SEVENTH FRAMEWORK PROGRAMME

# Services, Access Devices and Bearers

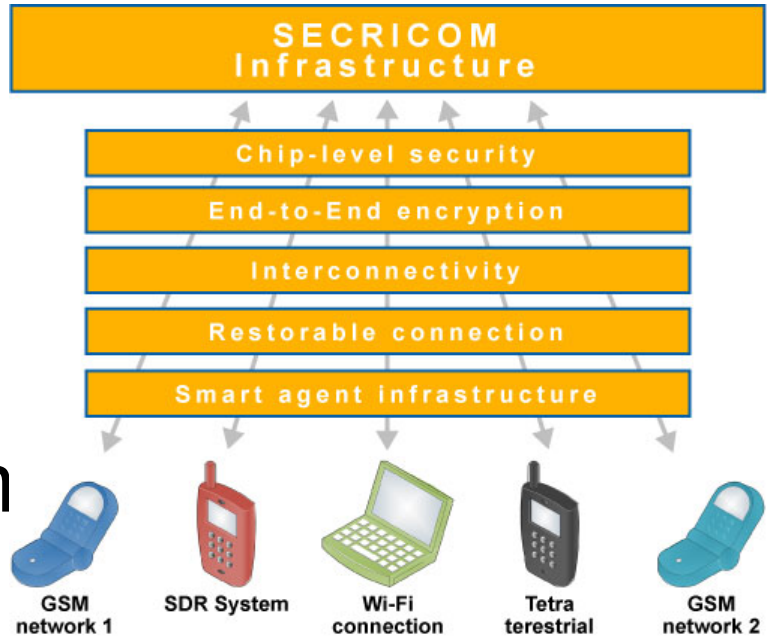


# In-Service Systems



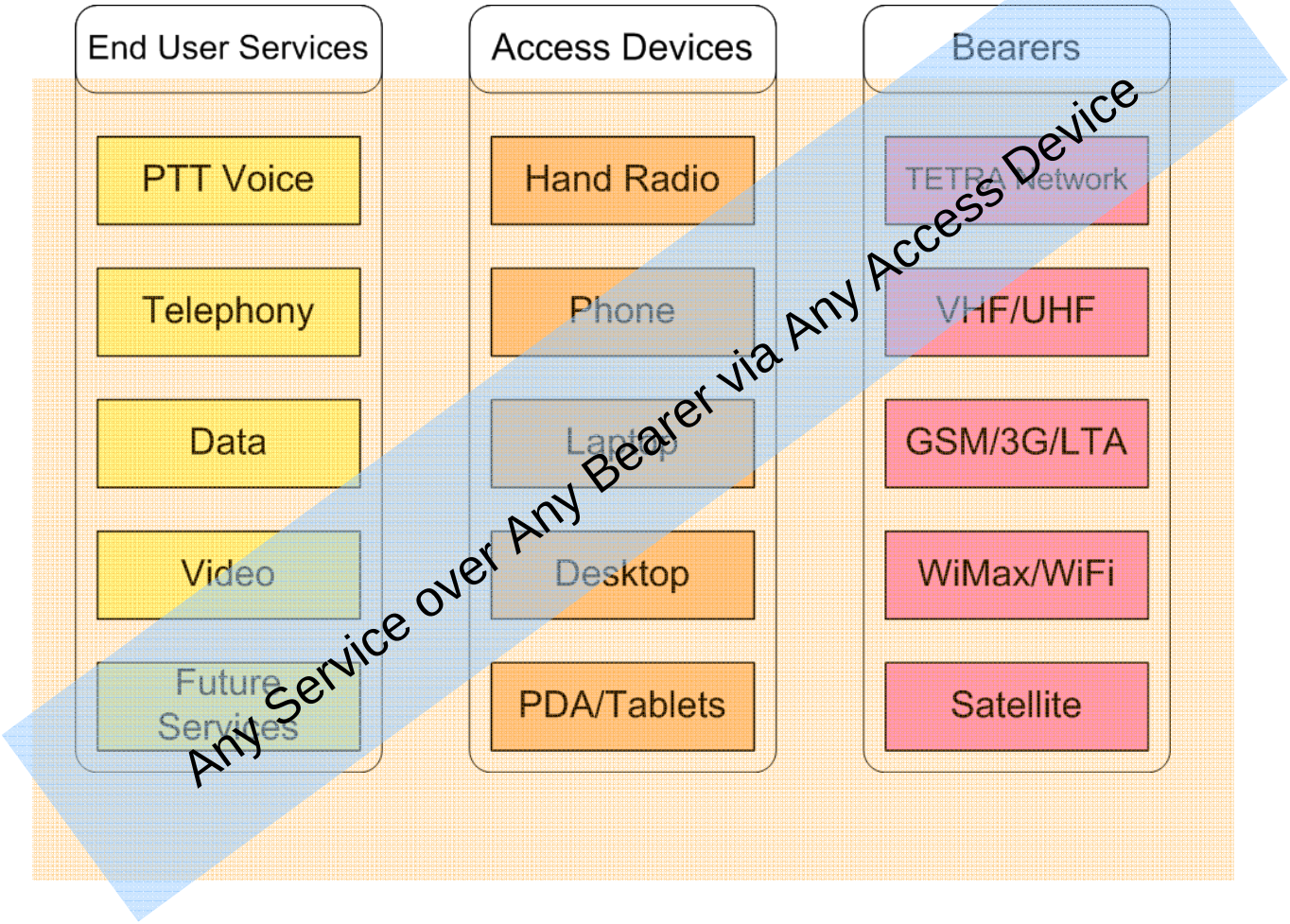
# Vision

- Ability for responders to operate across different European emergency services / responder agencies as one cohesive unit at the time of a crisis




- Secure communication system during a crisis with technical interoperability built into the design

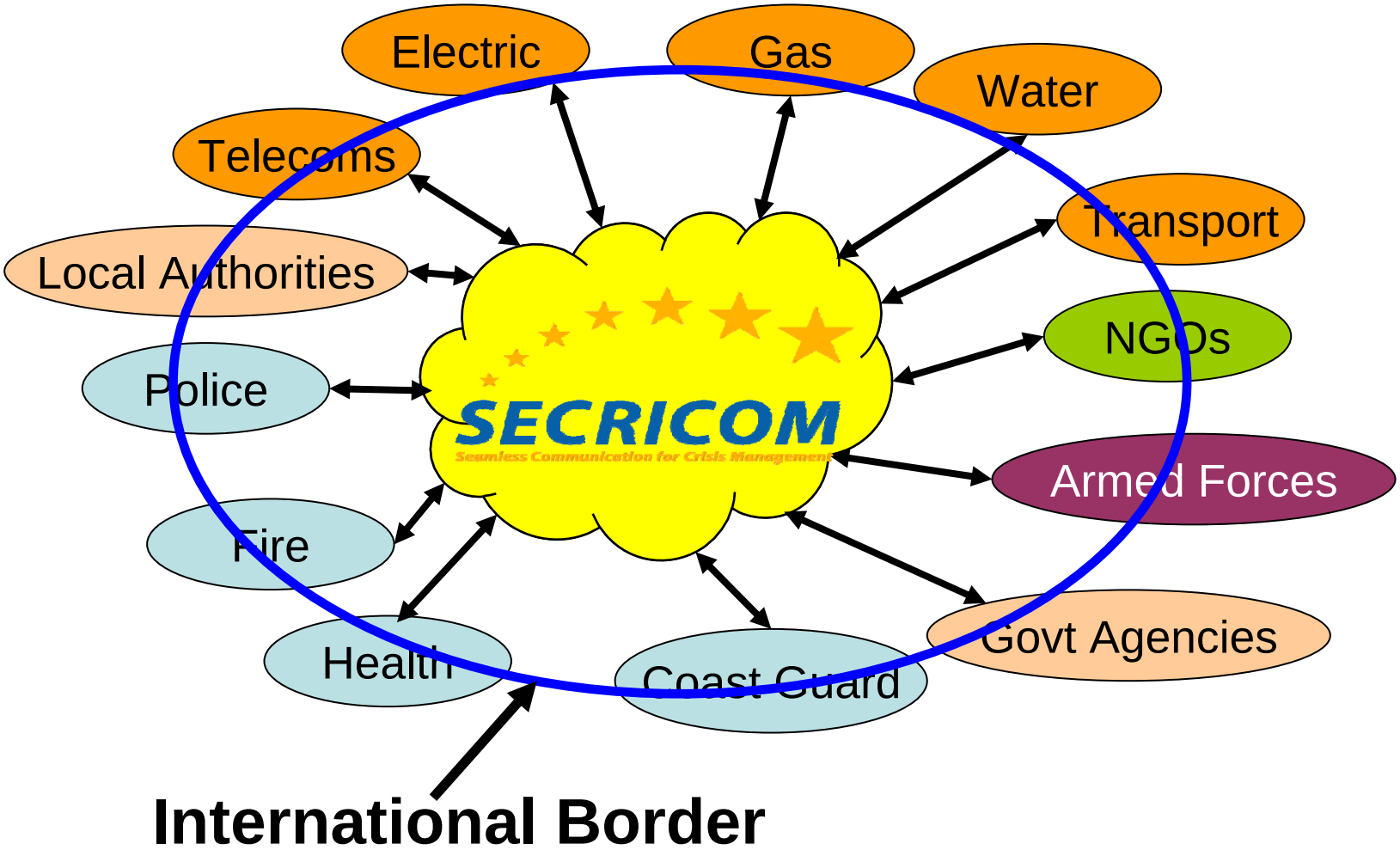
# Aims


End User Services
Access Devices
Bearers
PTT Voice
Telephony
Data
Video
Future Services
Hand Radio
Phone
Laptop
Desktop
PDA/Tablets
TETRA Network
VHF/UHF
GSM/3G/LTA
WiMax/WiFi
Satellite
Any Service over Any Bearer via Any Access Device

# Aims

- Provision of seamless communications for emergency agencies at times of crisis
- Enhance interoperability among heterogeneous secure communication systems
- Enhance interconnectivity between different networks and User Access Devices
- Exploit existing communication systems
- Interface towards emerging SDR systems in a generic manner
- Mitigate some of the key capability gaps faced by users of existing systems

# Business Stakeholders

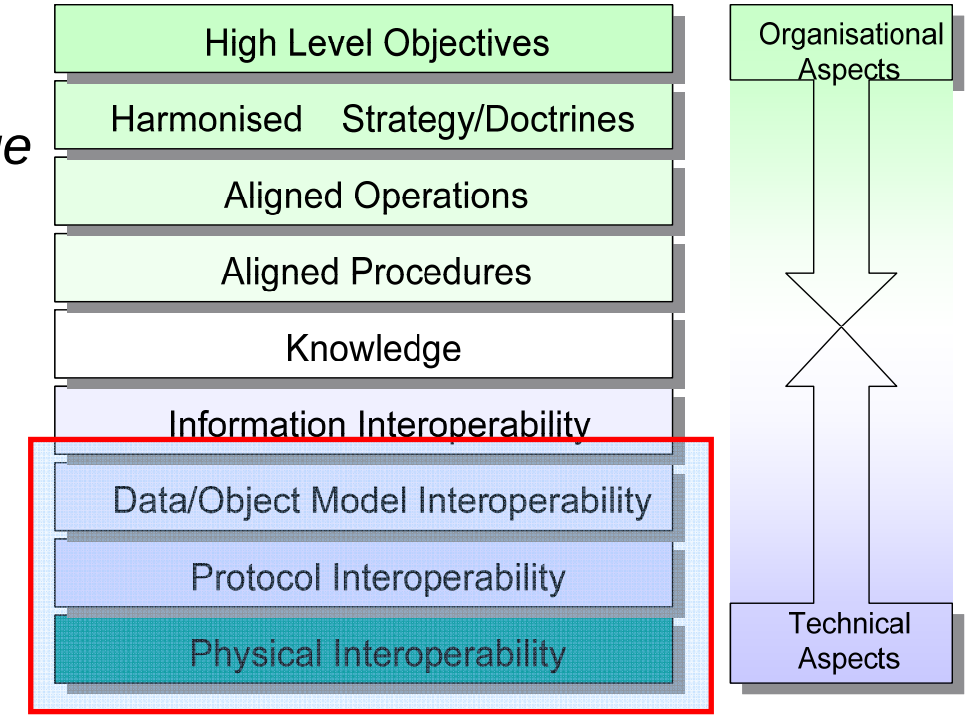


# Interoperability

**Definition:**
*The capability of two or more organisations or discrete parts of the same organisation to exchange decision-critical information and to use the information that has been exchanged*.

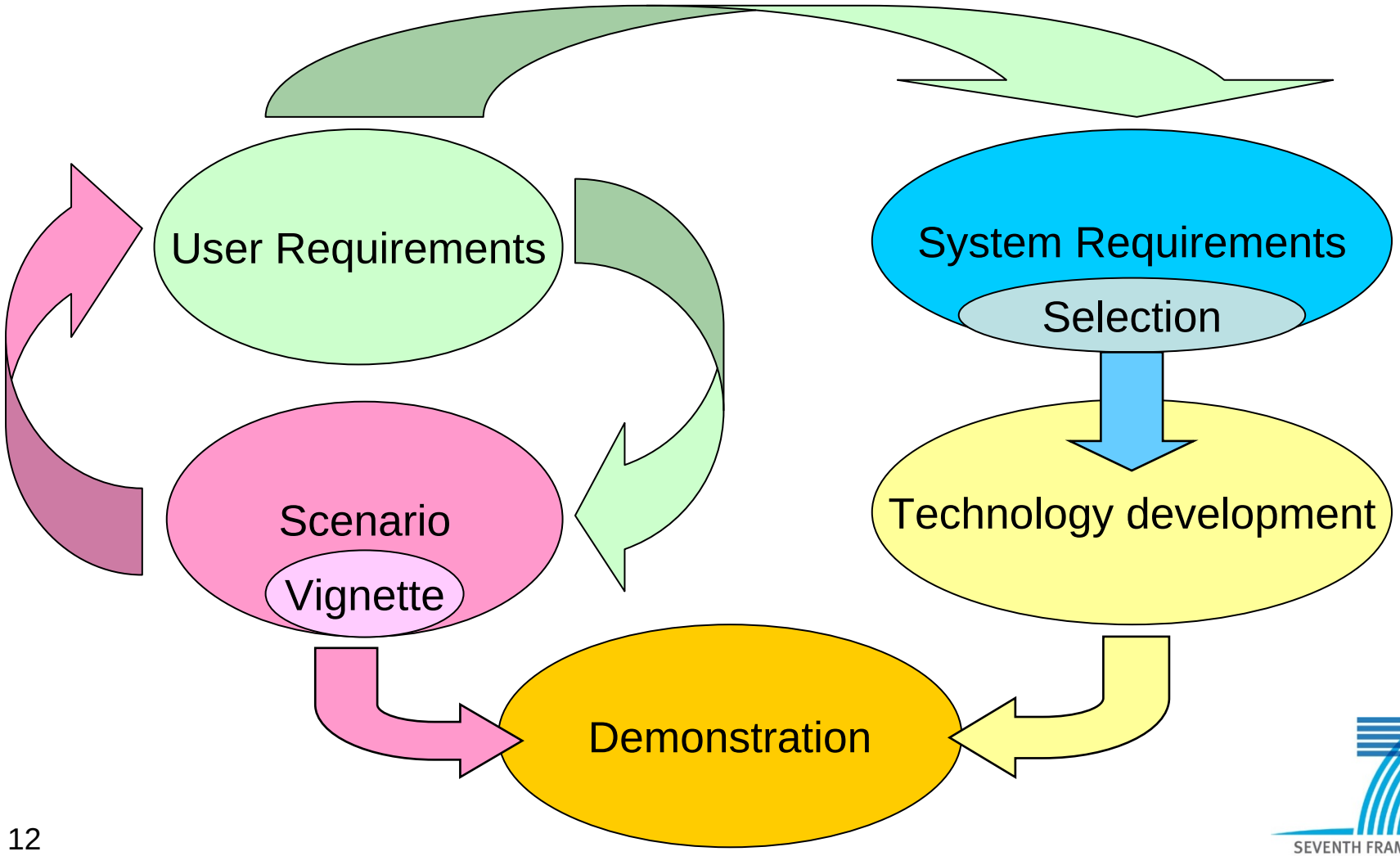
*Clearly, interoperability ranges from organisational to technical aspects all of which must be 'harmonised' in order to achieve full interoperability.*

Layers of Interoperability



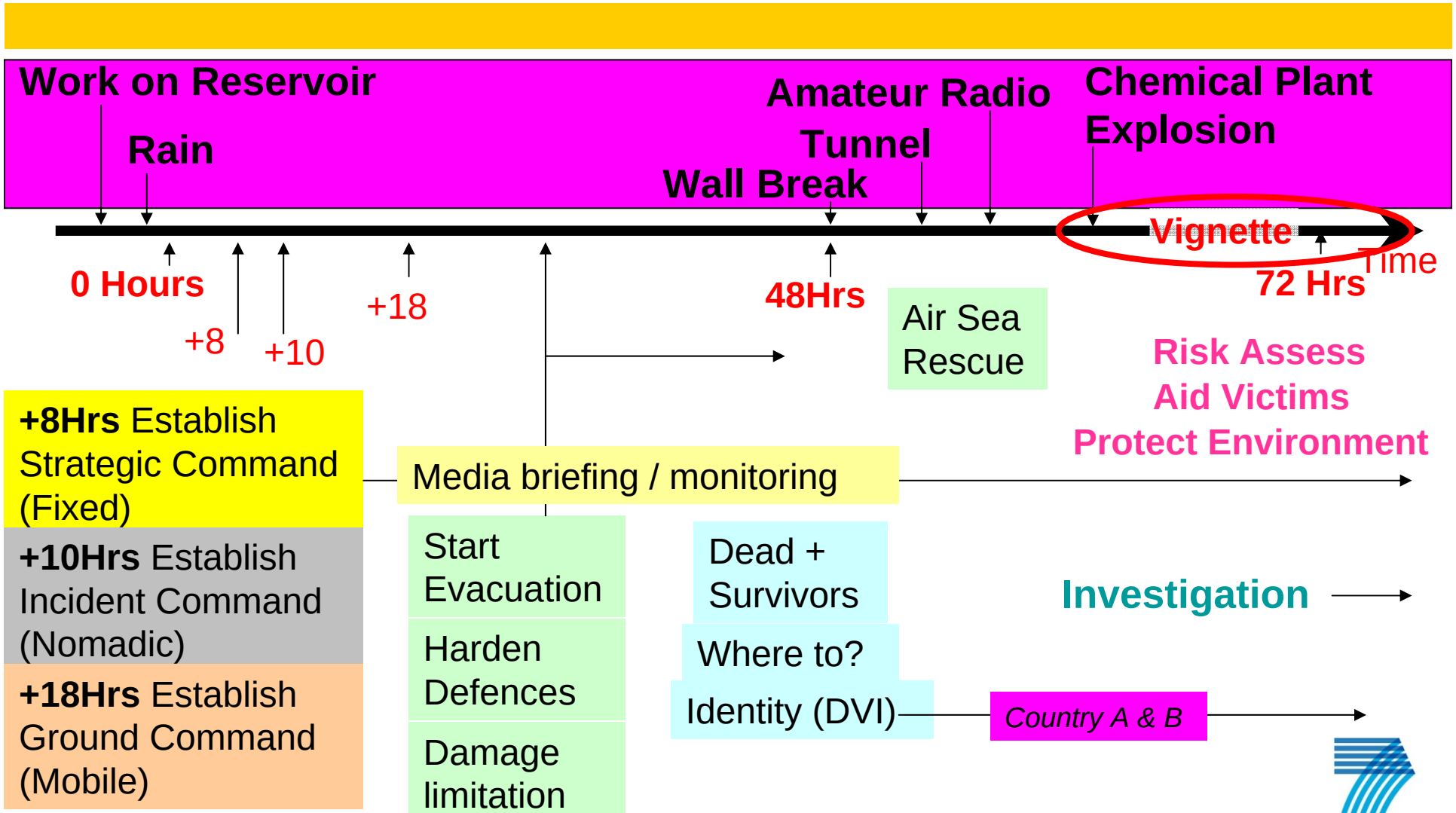

**Scope:** The technical aspects of Interoperability

# Project Approach

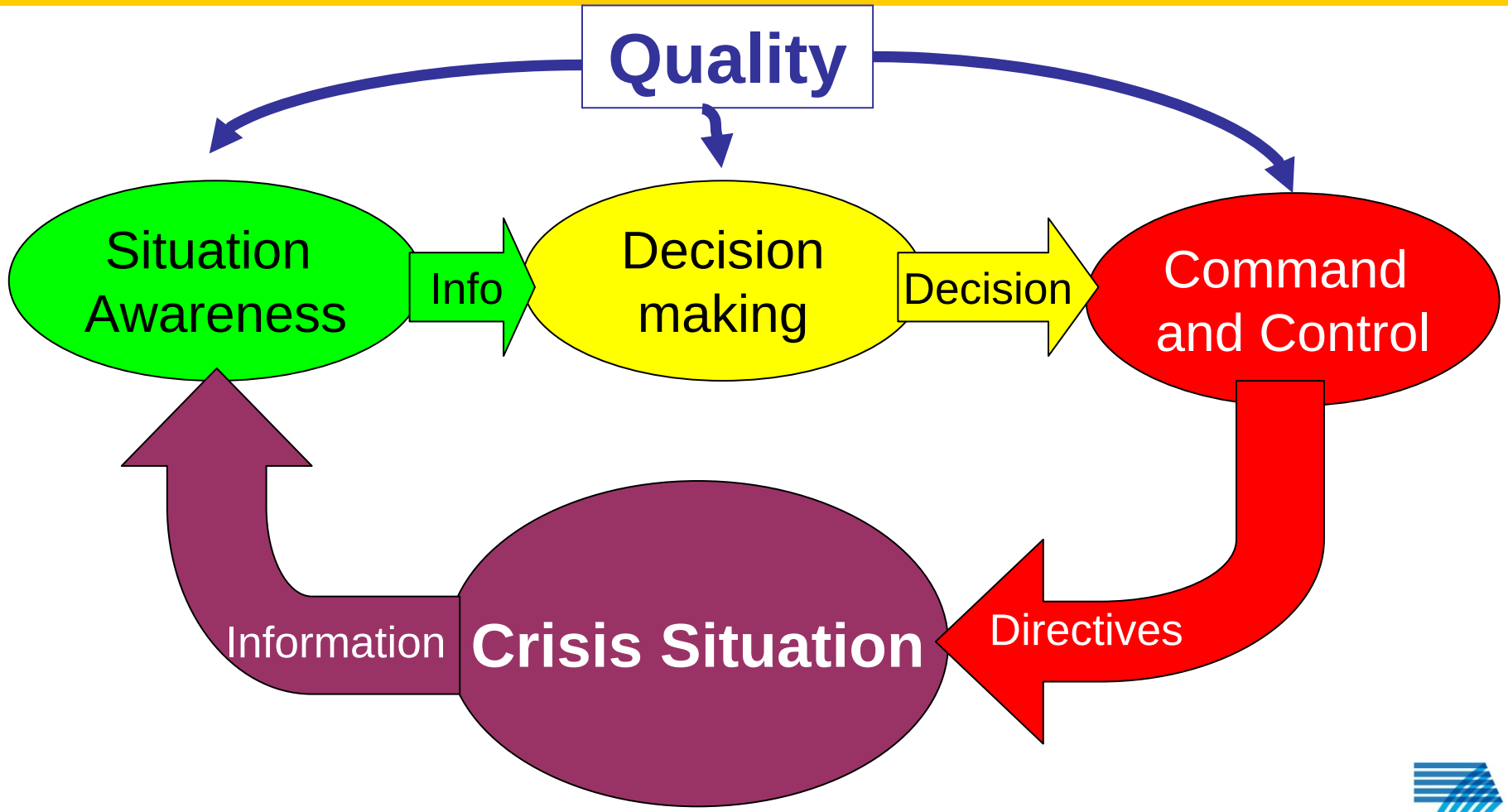


# Scenario and User Requirements

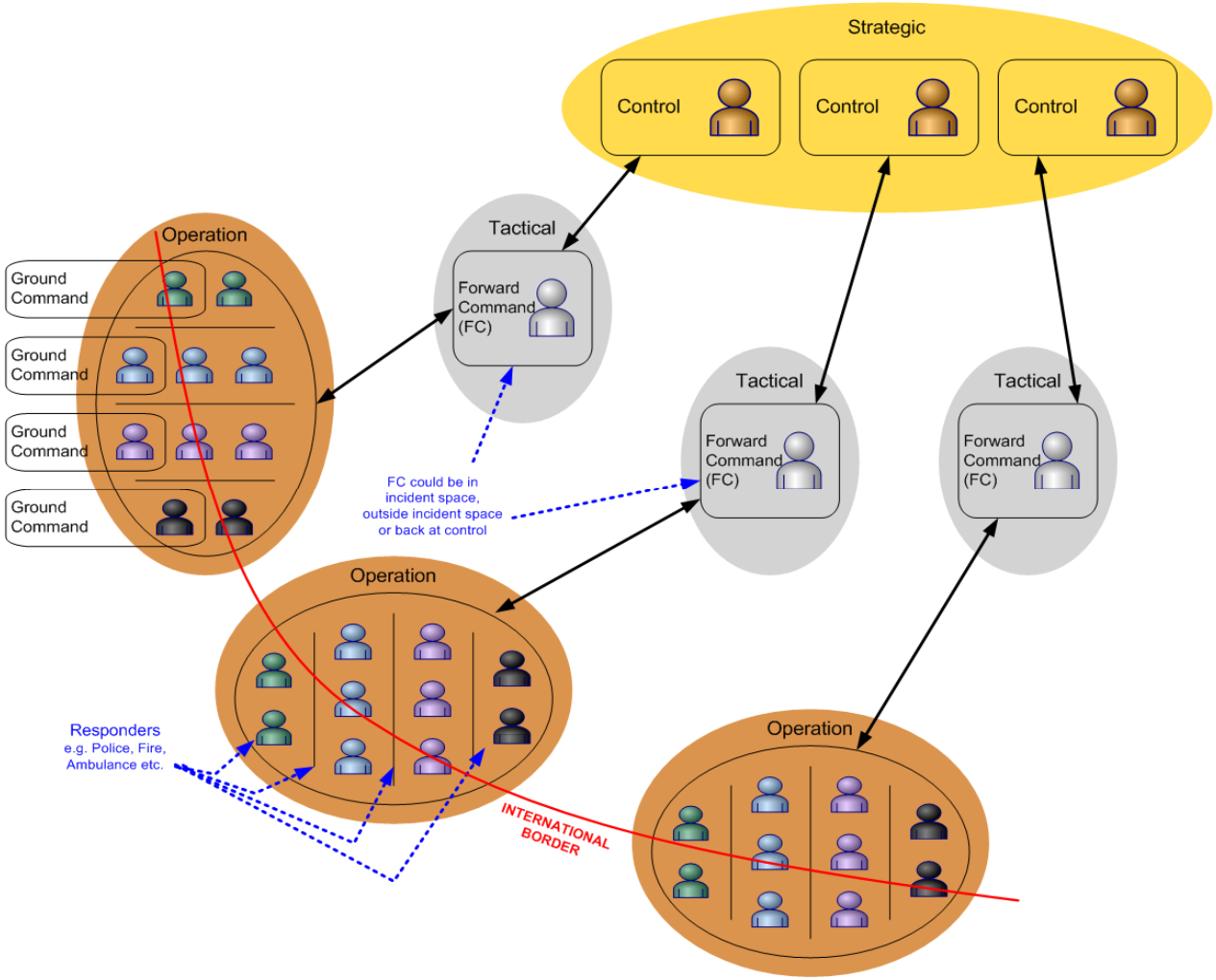
# Scenario


Work on Reservoir
Rain
Wall Break
Amateur Radio
Tunnel
Chemical Plant
Explosion
Vignette
Time
0 Hours
+8
+10
+18
48Hrs
72 Hrs
Air Sea
Rescue
Risk Assess
Aid Victims
Protect Environment
+8Hrs Establish Strategic Command (Fixed)
+10Hrs Establish Incident Command (Nomadic)
+18Hrs Establish Ground Command (Mobile)
Media briefing / monitoring
Start Evacuation
Harden Defences
Damage limitation
Dead + Survivors
Where to?
Identity (DVI)
Country A & B
Investigation

# Principle of Crisis Management



# Typical C2 for Crisis Management

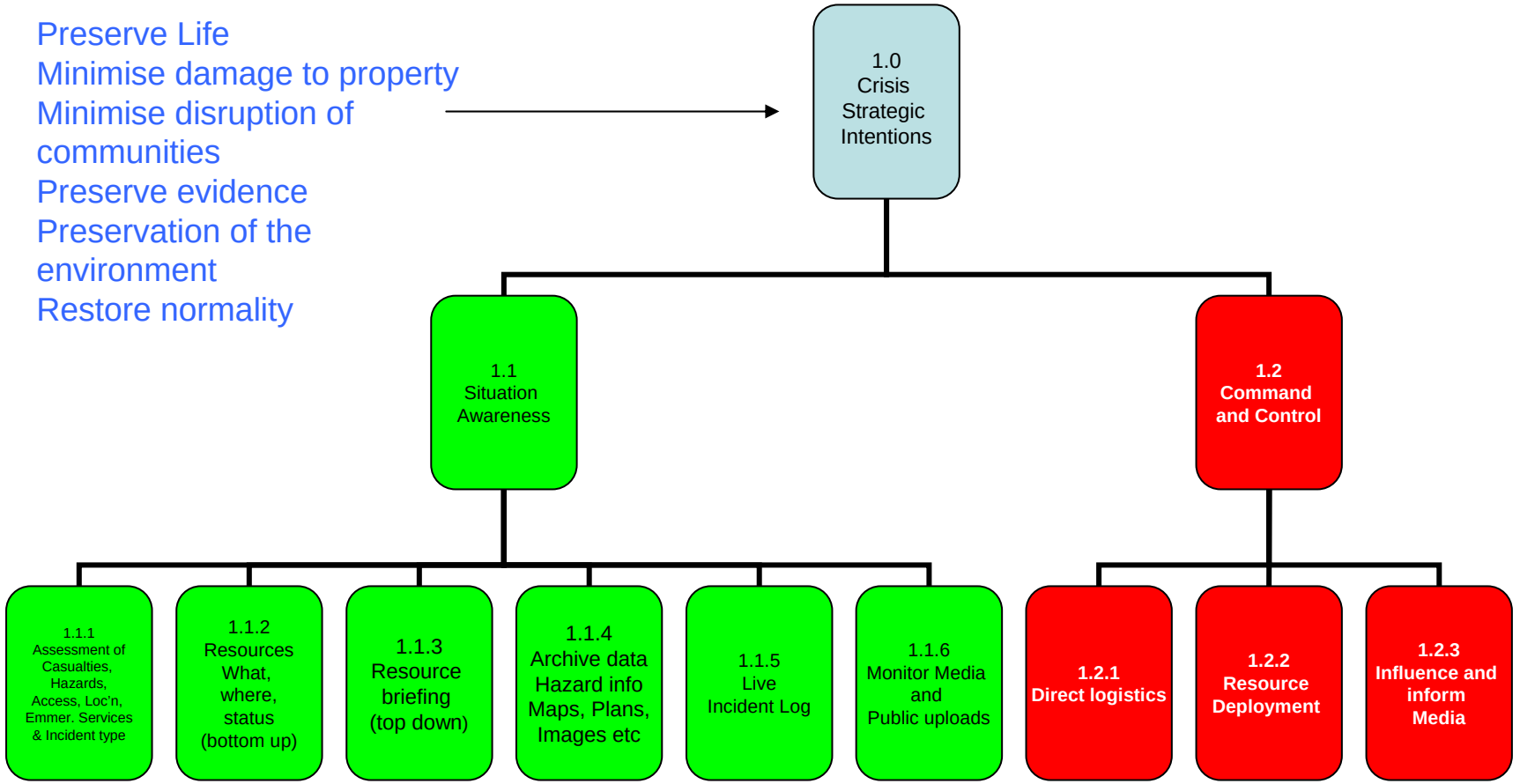



Extends across international borders

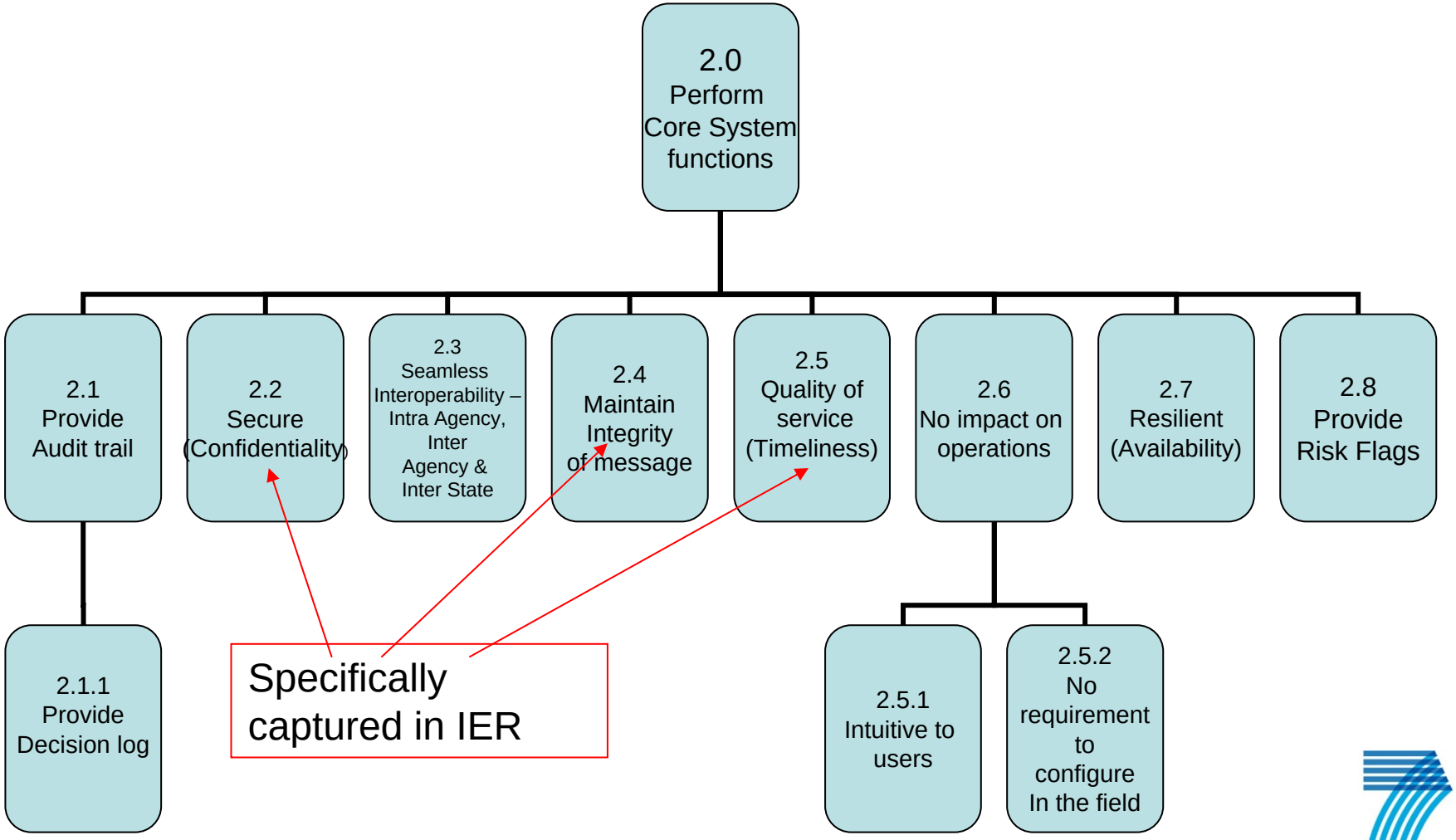
Extends across different agencies

# Top level User Requirements

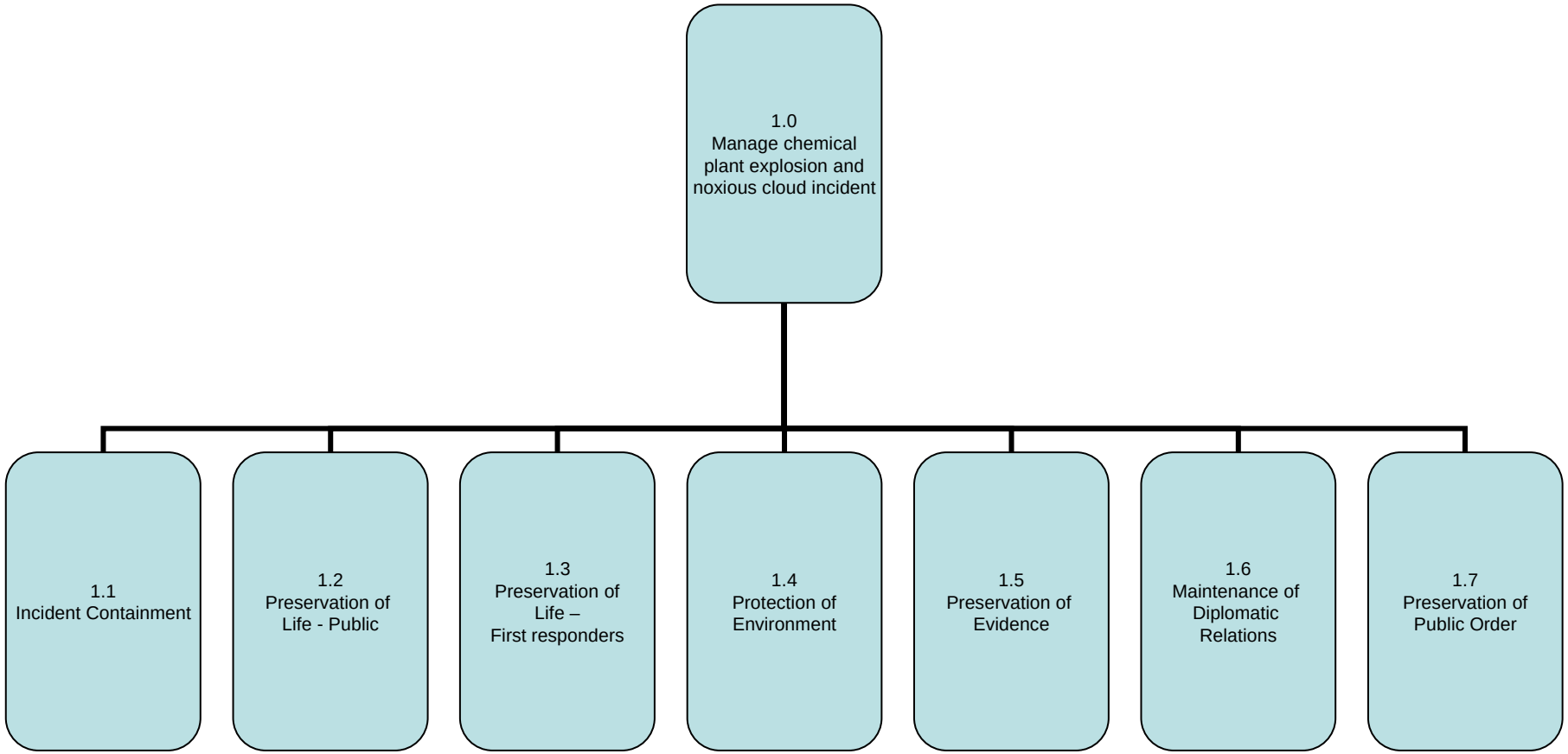
Preserve Life
Minimise damage to property
Minimise disruption of communities
Preserve evidence
Preservation of the environment
Restore normality



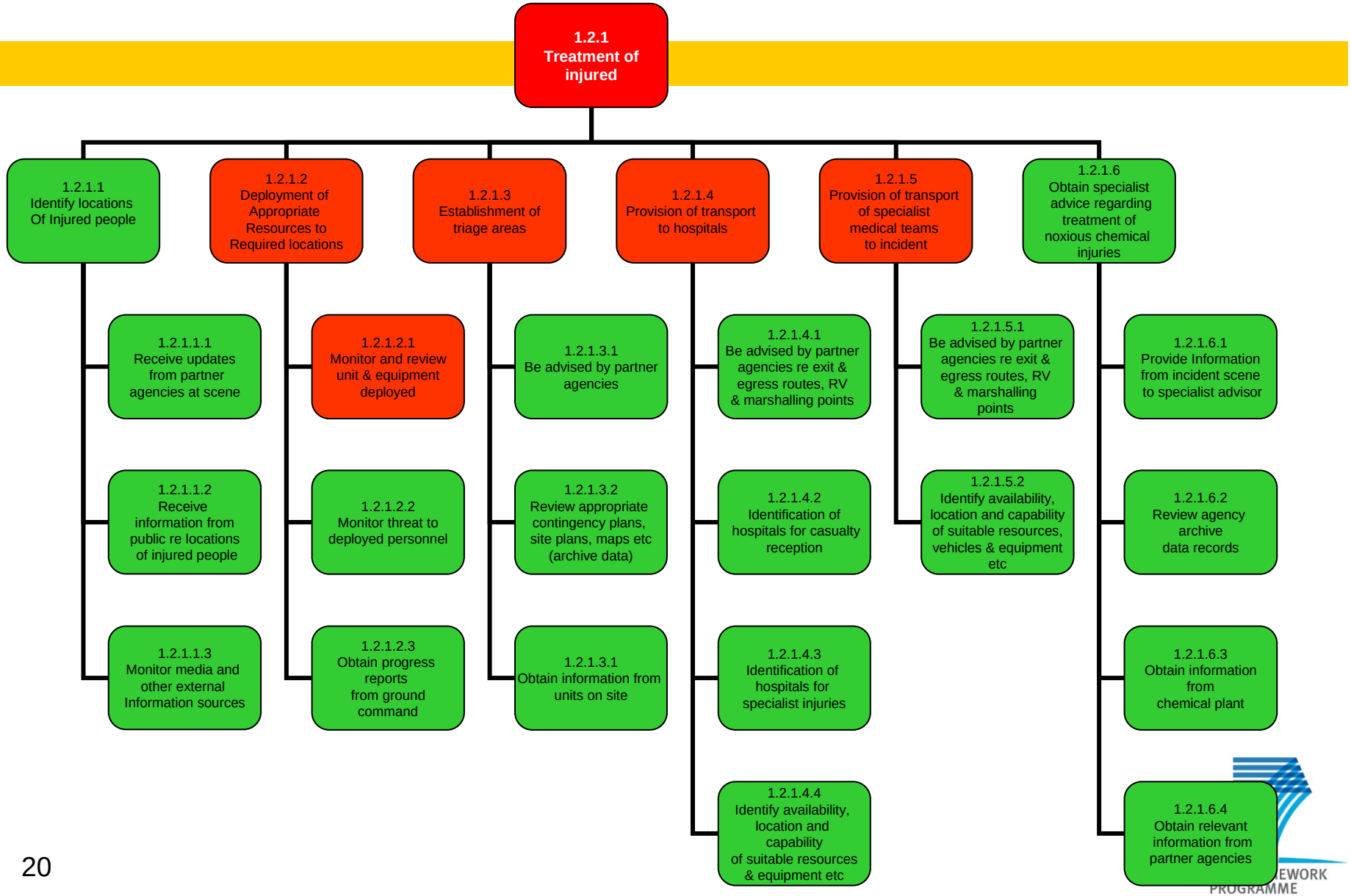
# Core Functions



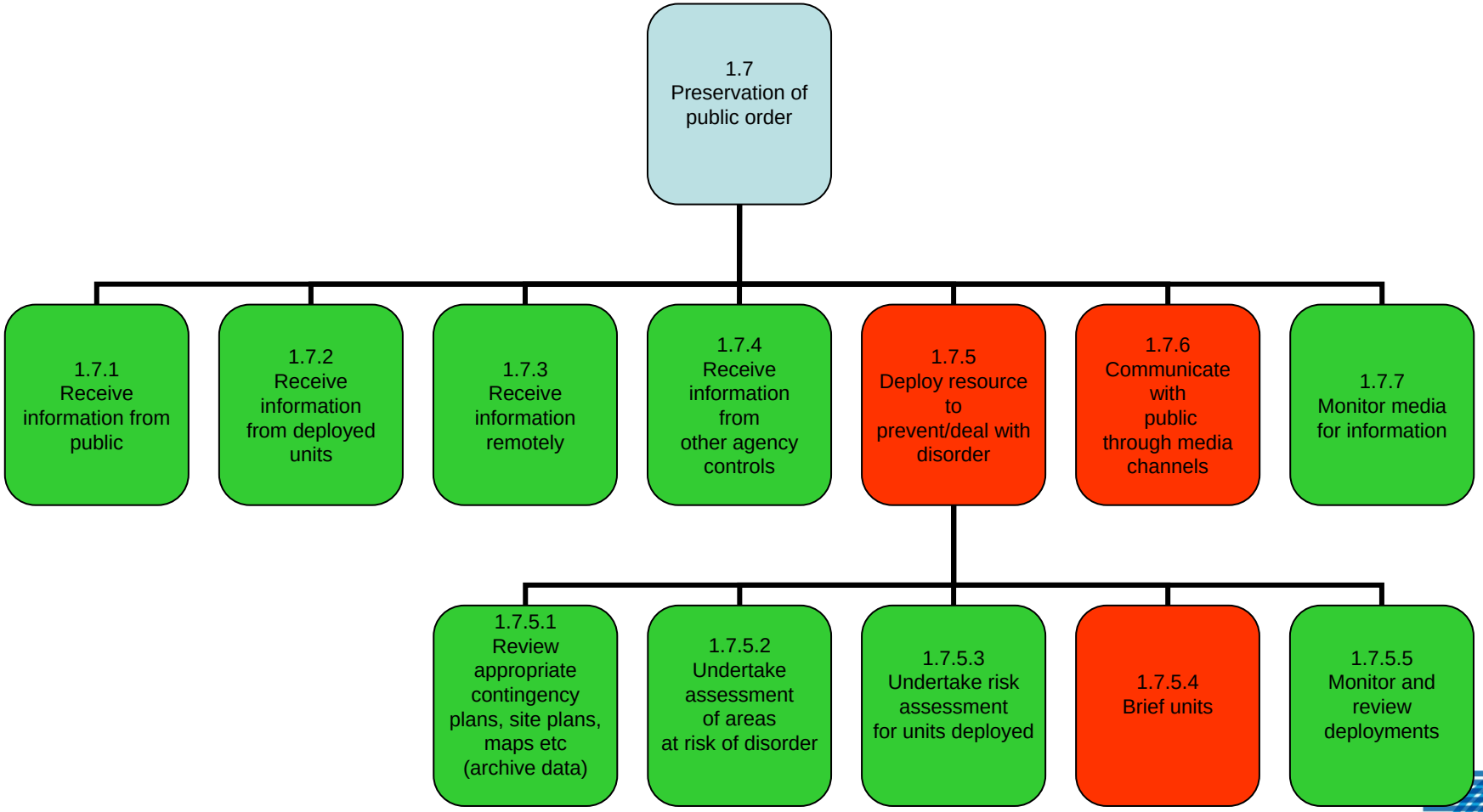
# Use Case (Vignette Example)



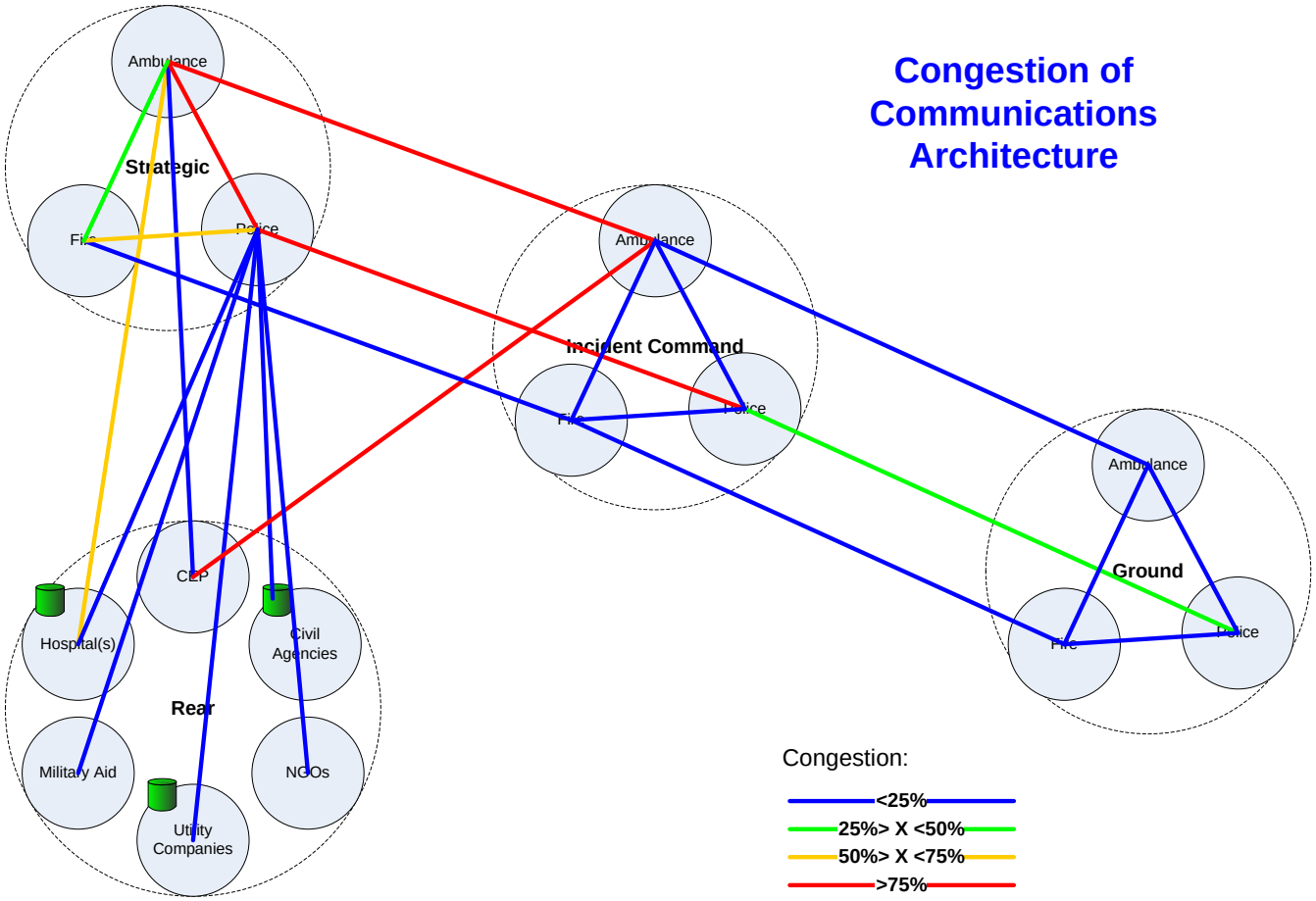
# Use Case (Vignette Example): Preservation of Life (Public); Treatment of Injured



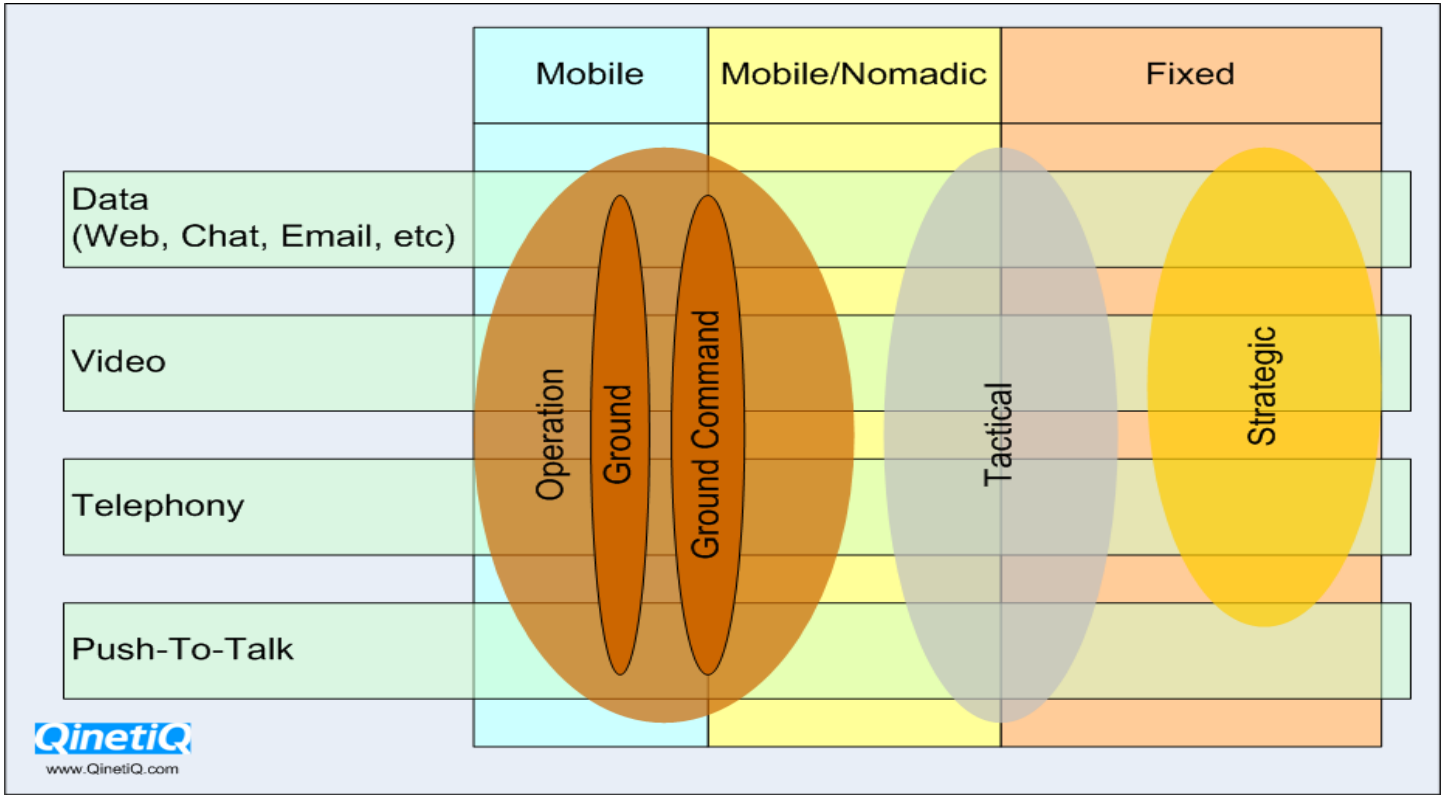
# Use Case (Vignette Example)



# IER Analysis



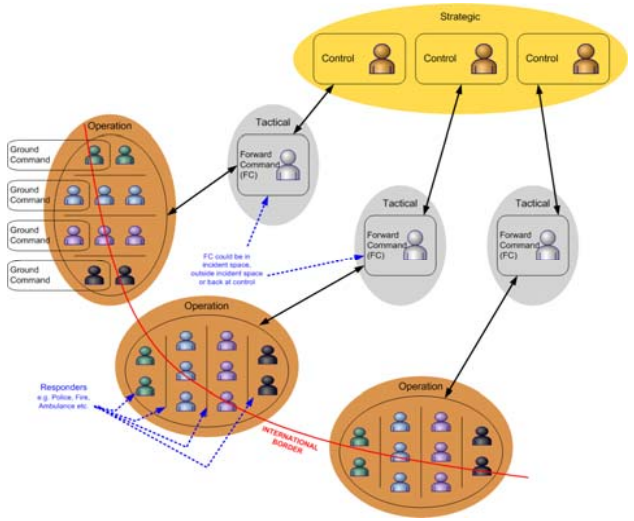
# Communications System Requirements: Type of Traffic for Users from User Requirements



# Benefits to the Stakeholder

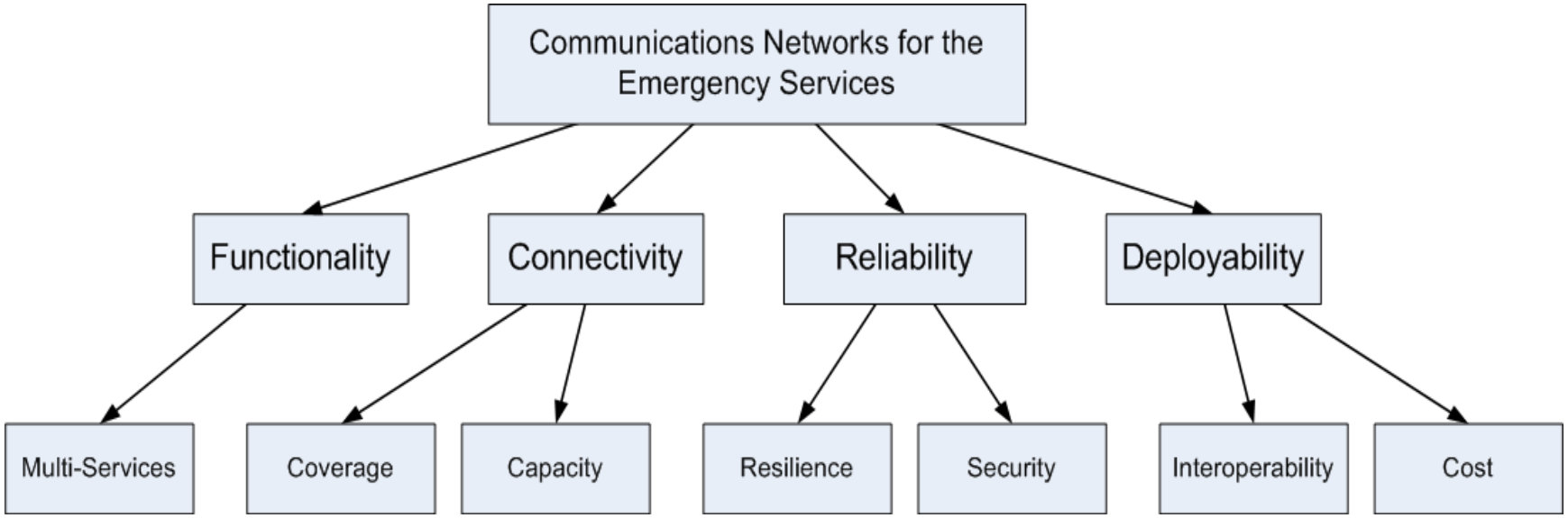
- User driven process for requirements capture
- Requirements emerge from realistic scenario
- Requirements become scenario independent
- Clear audit trail from requirements through systems requirements to final demonstrator test

# System Architecture and Solution Technologies




Clear Need for communications that can be relied upon

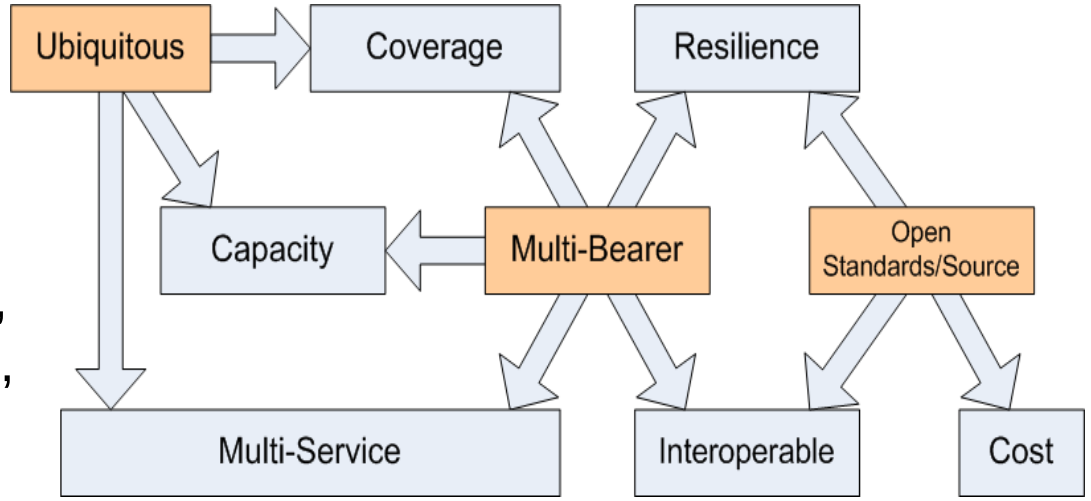
# Communications System Requirements



# Communications System Requirements

Avoidance of reliance on a one comm system

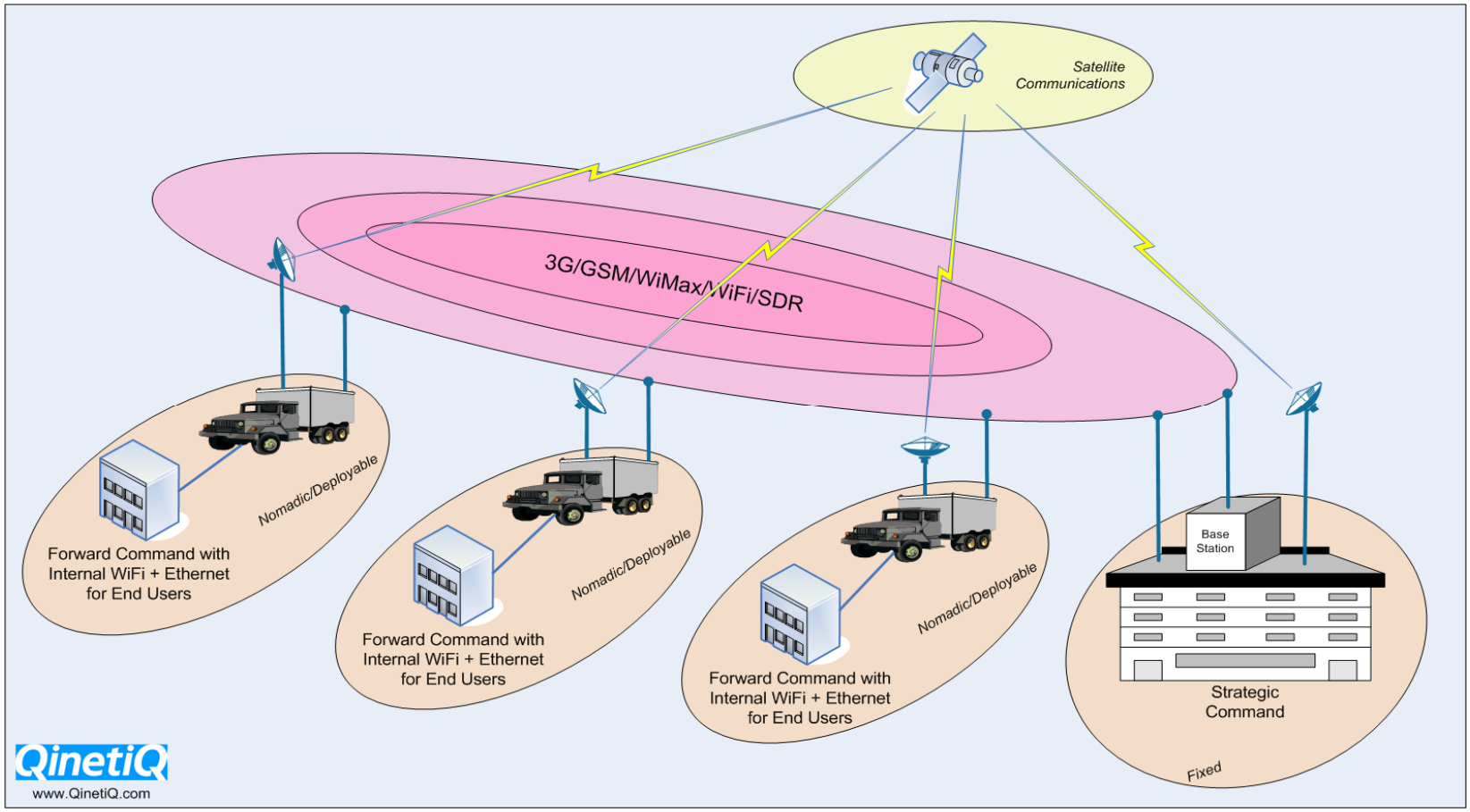
- Make simultaneous use of 3G, GSM, WiFi, WiMax, Satellite, SDR, etc



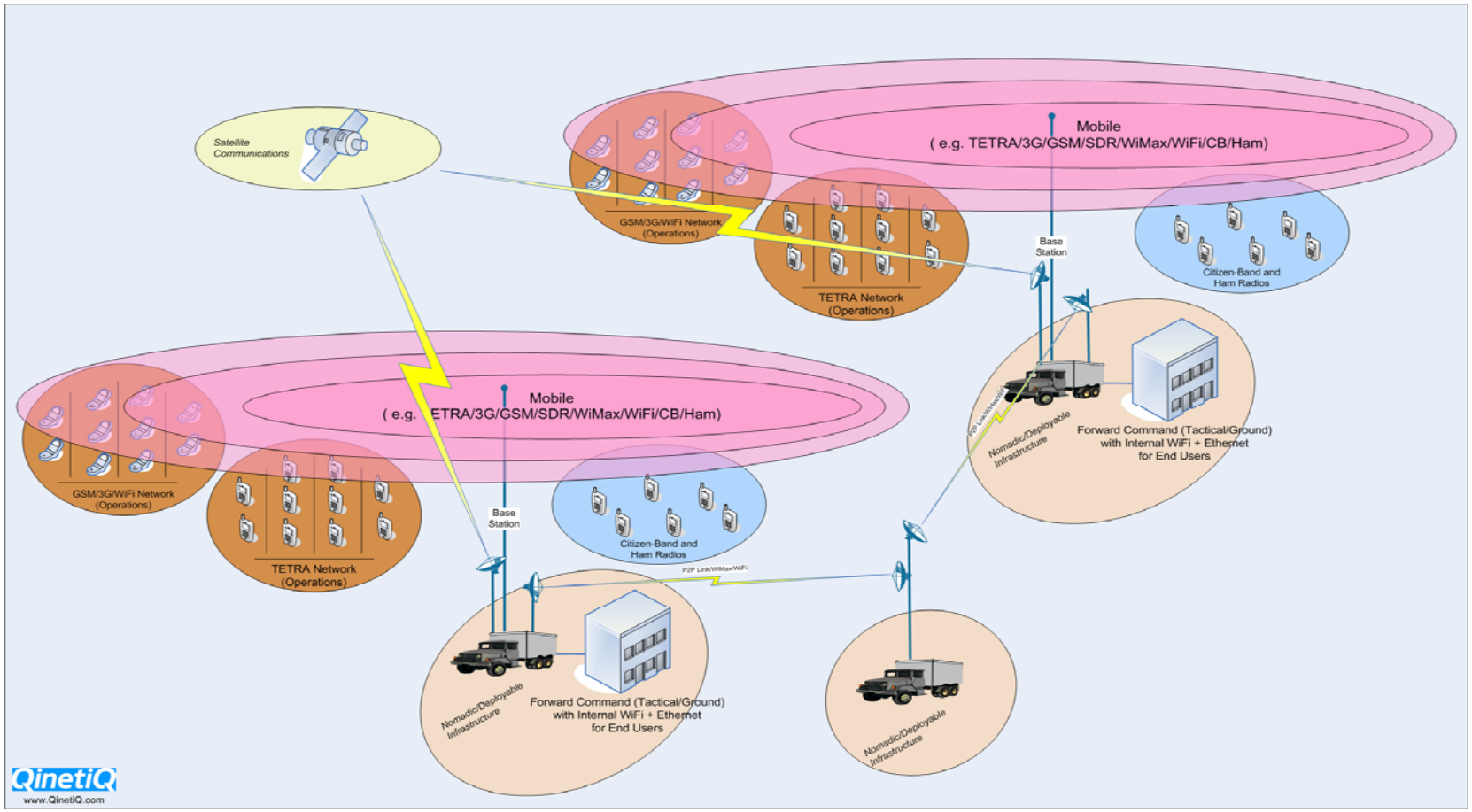

Usage of open/non-proprietary standards

- Network: IPv6 as the principle standard for networking
- Wireless: 3G, GSM, WiFi, WiMax, TETRA, Satellite, etc
- Fixed: Ethernet

# Communications System Requirements: Strategic/Forward Command Connectivity



# Communications System Requirements: Forward-Command/Operations Connectivity

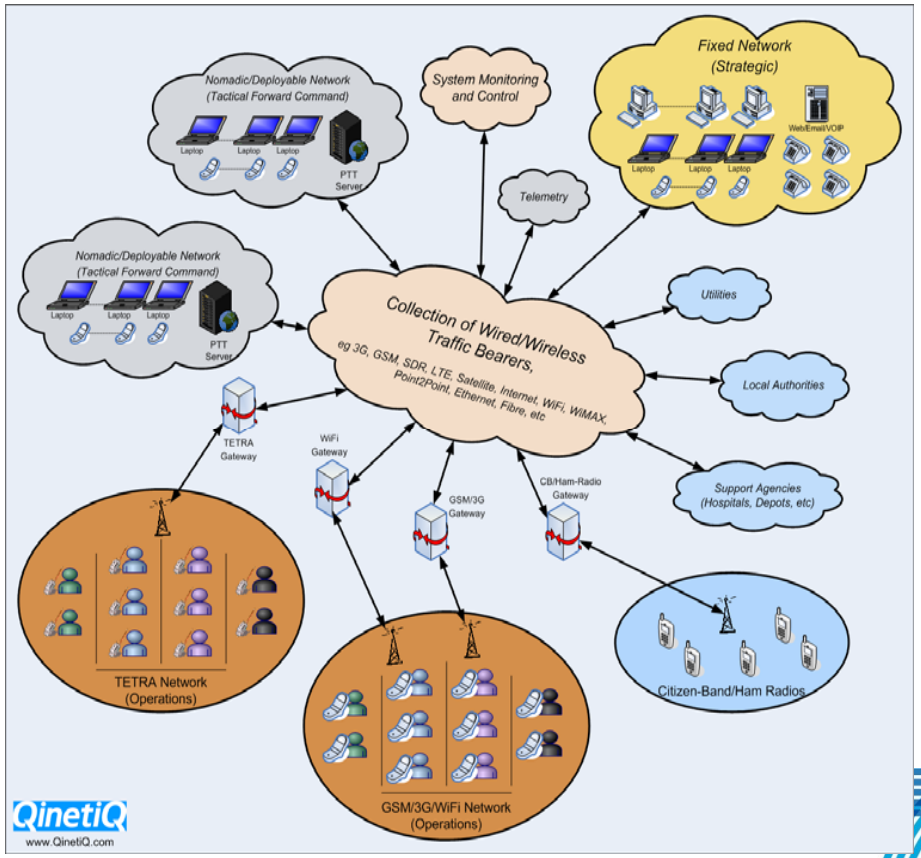


# Communications System Requirements: Holistic High Level View

The communications system architecture allows:

•<u>Technical interoperability:</u>
Able to extend comms across different agencies and countries.

•<u>Service expandability:</u>
Able to extend comms into areas of poor coverage.



# Communications System Requirements: Confidentiality + Integrity

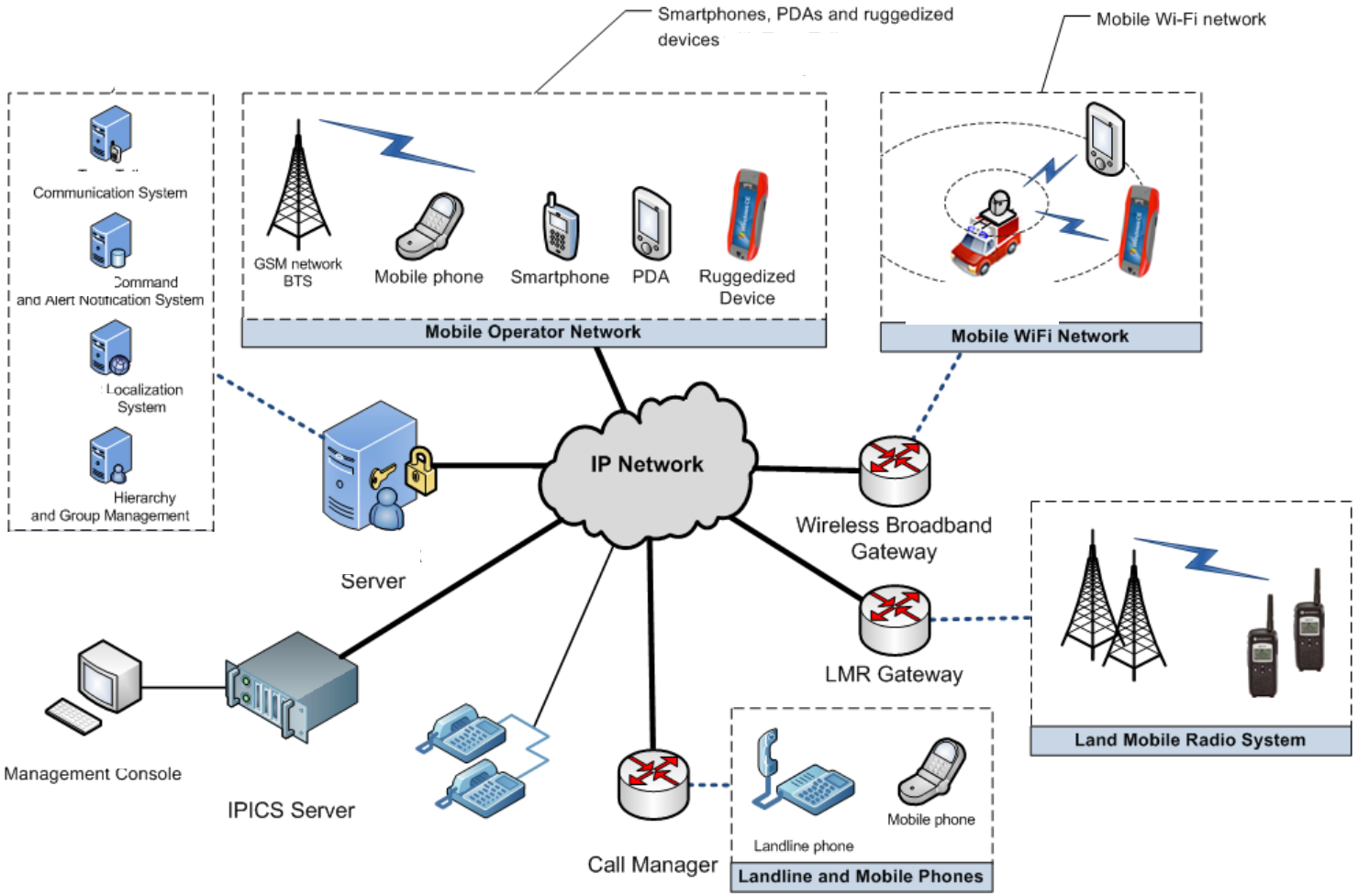
Confidentiality: This is being tackled in two ways

- End-device to end-device
- Node to node

Integrity:

- System integrity: is the terminal/computer platform you are using infiltrated? Has the platform integrity been compromised?
  - Malware, Trojan horses, etc
- Information exchange integrity: in a multi-agency/multi-state scenario, how does an agency's database 'trust' an external query? Is the query made from a trusted agency? Or…..?
  - Information exchange between distributed multi-agency/multi-national databases

# System Convergence



SECRICOM
Seamless Communication for Crisis Management

# Where are we?

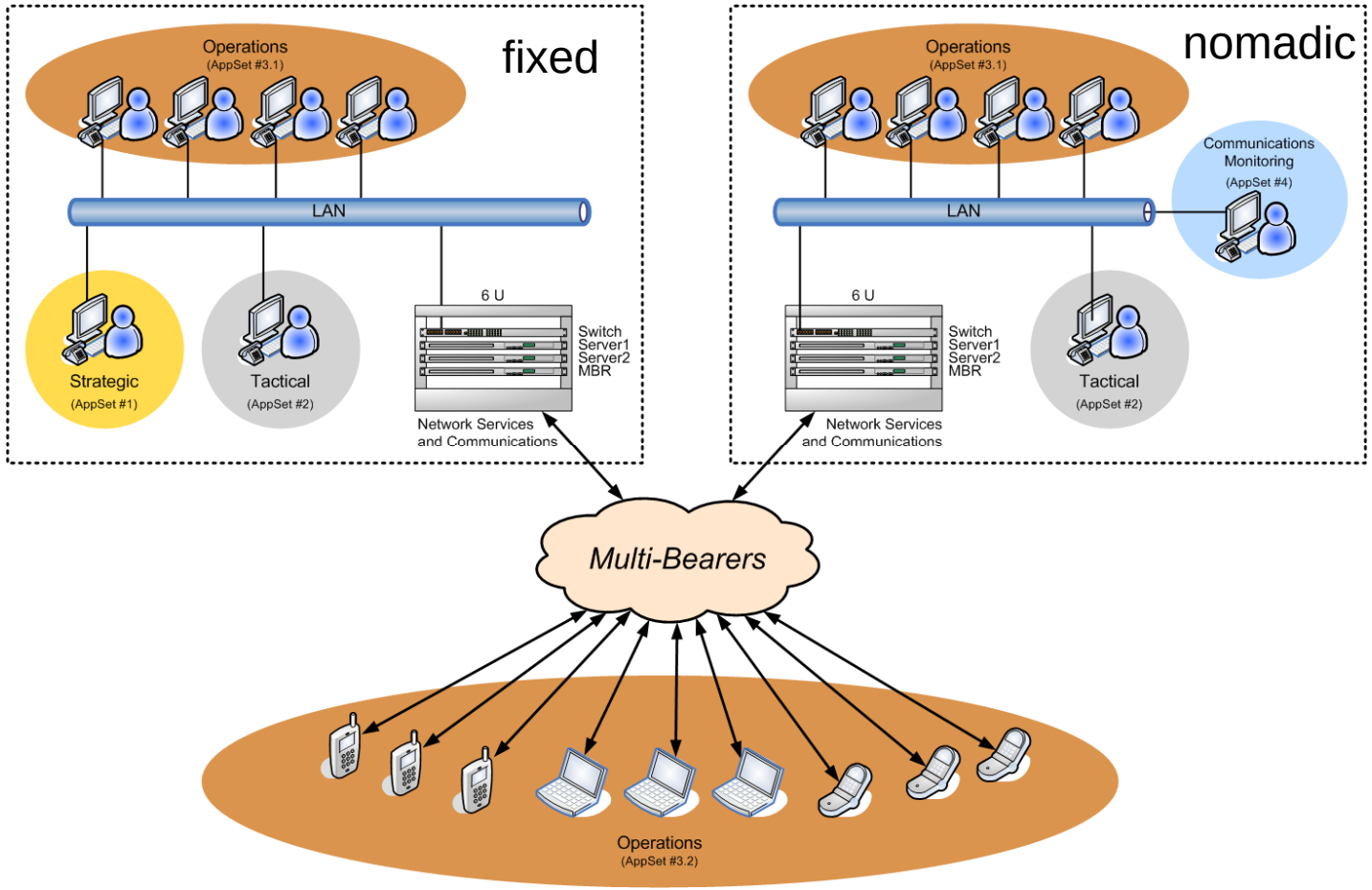


SEVENTH FRAMEWORK PROGRAMME

# Where are we?

- **Scenario Development & Validation**
- **C2 Structure Validation**
  - UK, Slovakia, Luxembourg
- **Validation of Top Level User Requirements**
  - Swedish Police
  - Basque Regional Emergency Communications Centre
  - UK: Fire, Police, Ambulance & Local Authority
- **User Workshop to Define IERs September 2009 in London:**
  - London Fire Brigade
  - Northamptonshire County Council
  - Dept of Health
  - Hampshire Constabulary
- **Identification of System Solutions and Solution Developments**
- **Planned Exhibition: BAPCO Conference, April 2010, London**

# BAPCO Conference, April 2010, London



# Questions ?

# Contact

- SECRICOM Website (www.secricom.eu)

- Presenters: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